

- -86°C Deep Medical Freezer
- 2°C-8°C Vaccine Storage Freezers
- Vaccine Cooler Box



**STORAGE EQUIPMENT**



**VACCINE STORAGE  
PROFESSIONAL SUPPLIER**

## -86 °C Dual System



This product is specially designed and manufactured for long term storage of various biological product, including viruses, germs, erythrocytes, leucocyte and cutis. Applications can be found in blood banks, hospitals, epidemic prevention services, and research institutes, laboratories in electronic and chemical plants, bio-logical engineering institutes and marine fishery companies.



2 individual inner doors can be opened independently to minimize frost buildup inside the chamber  
Unique door seal design for the minimum loss of cold temperature during a door opening  
Stainless Steel handle to ensure the door open conveniently even in the case of frost



Excellent Doors Seals  
5 gasket seal, 4 seals for out door



7 Inches touch Screen  
All data display on the screen, easy to observe

Write Board for short records  
which would pass to next user

Green Handle, easy to use with 2 locks

Special V.I.P (Vacuum Insulation Panel) design with extra insulation factor cuts down heat loss to cabinet by 25%



Big condenser for better heat dissipation



Changeable sensor box or you could put another sensor from here to monitor or record temperature



## -86 °C Dual System

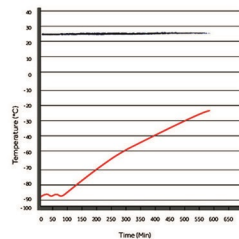
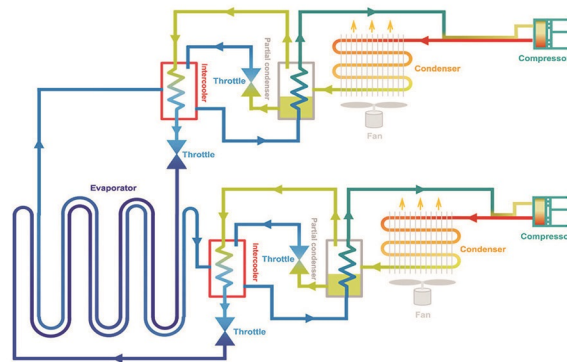
--7 Inches Touch Screen & Functions



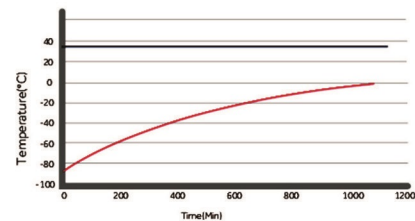
Alarm	Alarm Triggering Condition
High Temperature	Temperature reaches the warm alarm limit
Low Temperature	Temperature reaches the low alarm limit
Power Failure	Equipment loses power
Door Ajar	Door open period exceeds 5 mins
Probe Failure	<ol style="list-style-type: none"> <li>1. Main cabinet temperature control sensor fails</li> <li>2. Condenser sensor fails</li> <li>3. Ambient sensor fails</li> <li>4. Heat exchanger sensor fails</li> <li>5. Heat exchanger temperature fails</li> </ol>
Low Battery	Battery capacity runs low or battery switch is not turned on
Hot Condenser	<ol style="list-style-type: none"> <li>1. Condensers filter element is clogged</li> <li>2. Ambient temperature is too high</li> </ol>
High Ambient Temperature	Ambient temperature exceeds 32°C
Other alarms	<ol style="list-style-type: none"> <li>1. Thermostat failure</li> <li>2. Abnormi voltage alarm</li> </ol>



## Dual System Circulation System



Pull-up test at 25°C ambient  
KS-86V588



Pull-up test at 32°C ambient  
KS-86V588

## -86 °C Dual System

### FILED PROVEN RELIABILITY

- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber.
- Specialized control system design for a well-balanced operation of dual refrigeration system.
- Positive filed proven reliability record.

### SAFETY

- Malfunction alarms including high and low temperature, power failure, sensor error, clean-filter, and extremely high ambient, abnormal voltage, thermostat failure, low battery, condenser clean, door ajar.
- Capable of producing two types of alarm outputs, audible buzzer and visible flashing light.
- Door open feature standard and USB port for temperature data downloading standard on upright models.
- Remote alarm contacts.

### INSTALLATION AND APPLICATION

- Wide range operating voltage system from 187V to 242V designed to allow units installed in areas with poor voltage condition
- Suitable for 10°C to 32°C ambient temperature



### ENERGY SAVING

- Unique door seal design for the minimum loss of cold temperature during a door opening.
- High performance VIP insulation panels to minimize cabinet heat gain and to improve temperature stability.

### KEY DESIGN FEATURES

- Microprocessor-controlled system designed for controlled range of -40°C to -86°C for cabinet space with 1°C increment
- Settable high temperature and low temperature alarms.
- Automatic clean-filter alarm and sensor error alert.
- Adjustable storage shelf height
- Optional temperature recorder, storage racks and storage box
- Double security with two independent cooling system, when one system breakdown, the other system could maintain the inner temperature at -70°C.

## -86°C Cascade System



## -86 °C Cascade System

### FILED PROVEN RELIABILITY

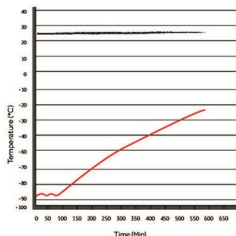
- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber.
- Specialized control system design for a well-balanced operation of cascade refrigeration system.
- Positive filed proven reliability record.

### SAFETY

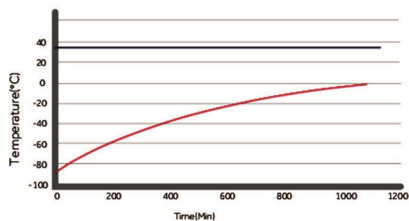
- Malfunction alarms including high and low temperature, power failure, sensor error, clean-filter, and extremely high ambient, abnormal voltage, thermostat failure, low battery, condenser clean, door ajar.
- Capable of producing two types of alarm outputs, audible buzzer and visible flashing light.
- Door open feature standard and USB port for temperature data downloading standard on upright models.
- Remote alarm contacts.

### INSTALLATION AND APPLICATION

- Wide range operating voltage system from 187V to 242V designed to allow units installed in areas with poor voltage condition
- Suitable for 10°C to 32°C ambient temperature



Pull-up test at 25°C ambient  
KS-86V728



Pull-up test at 32°C ambient  
KS-86V728

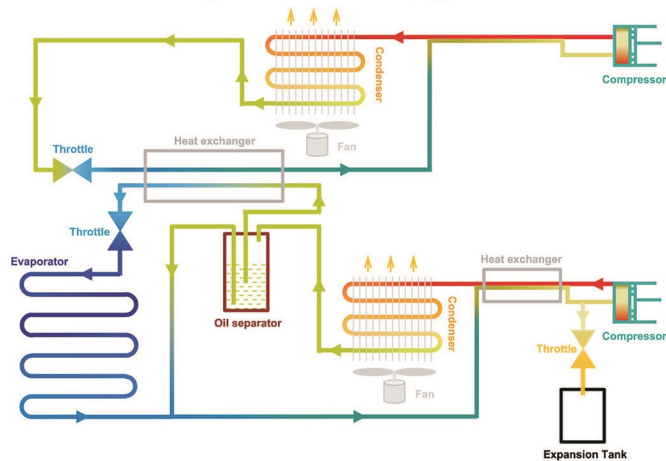
### ENERGY SAVING

- Unique door seal design for the minimum loss of cold temperature during a door opening.
- High performance VIP insulation panels to minimize cabinet heat gain and to improve temperature stability.
- HC Refrigerant with better efficiency & less energy cost, good for environment.

### KEY DESIGN FEATURES

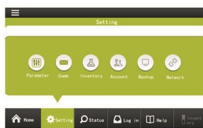
- Microprocessor-controlled system designed for controlled range of -40°C to -86°C for cabinet space with 1°C increment
- Settable high temperature and low temperature alarms.
- Automatic clean-filter alarm and sensor error alert.
- Adjustable storage shelf height
- Optional temperature recorder, storage racks and storage box

## Cascade System Heat Exchange Circulation



# 03

## -86 °C Cascade System --7 Inches Touch Screen & Functions



Alarm	Alarm Triggering Condition
High Temperature	Temperature reaches the warm alarm limit
Low Temperature	Temperature reaches the low alarm limit
Power Failure	Equipment loses power
Door Ajar	Door open period exceeds 5 mins
Probe Failure	<ol style="list-style-type: none"> <li>1. Main cabinet temperature control sensor fails</li> <li>2. Condenser sensor fails</li> <li>3. Ambient sensor fails</li> <li>4. Heat exchanger sensor fails</li> <li>5. Heat exchanger temperature fails</li> </ol>
Low Battery	Battery capacity runs low or battery switch is not turned on
Hot Condenser	<ol style="list-style-type: none"> <li>1. Condensers filter element is clogged</li> <li>2. Ambient temperature is too high</li> </ol>
High Ambient Temperature	Ambient temperature exceeds 32°C
Other alarms	<ol style="list-style-type: none"> <li>1. Thermostat failure</li> <li>2. Abnormi voltage alarm</li> </ol>

# 04



2 individual inner doors can be opened independently to minimize frost buildup inside the chamber  
Unique door seal design for the minimum loss of cold temperature during a door opening  
Stainless Steel handle to ensure the door open conveniently even in the case of frost



Excellent Doors Seals  
5 gasket seal, 4 seals for out door



7 Inches touch Screen  
All data display on the screen, easy to observe

Write Board for short records  
which would pass to next user

Green Handle, easy to use with 2 locks

Special V.I.P(Vacuum Insulation Panel) design with extra insulation factor cuts down heat loss to cabinet by 25%



Big condenser for better heat dissipation



Changeable sensor box or you could put another sensor from here to monitor or record temperature



-86°C Cascade System

## -86 °C Self- Cascade System



This product is specially designed and manufactured for long term storage of various biological product, including viruses, germs, erythrocytes, leucocytes and cutis. Applications can be found in blood banks, hospitals, epidemic prevention services, and research institutes, laboratories in electronic and chemical plants, bio-logical engineering institutes and marine fishery companies.



-86V838E



-86V588E



-86V340E



-86V188E



### SAFETY

- Malfunction alarms including high and low temperature, power failure, sensor error, clean-filter, and extremely high ambient, abnormal voltage, thermostat failure, low battery, condenser clean, door ajar.
- Capable of producing two types of alarm outputs, audible buzzer and visible flashing light.
- Door open feature standard and USB port for temperature data downloading standard on upright models.
- Remote alarm contacts.



### INSTALLATION AND APPLICATION

- Wide range operating voltage system from 187V to 242V designed to allow units installed in areas with poor voltage condition
- Suitable for 10°C to 32°C ambient temperature



### FILED PROVEN RELIABILITY

- Unique insulated inner door design for four separate storage compartments to minimize frost buildup inside the chamber.
- Specialized control system design for a well-balanced operation of cascade refrigeration system.
- Positive filed proven reliability record.



### KEY DESIGN FEATURES

- Microprocessor-controlled system designed for controlled range of -40°C to -86°C for cabinet space with 1°C increment
- Settable high temperature and low temperature alarms.
- Automatic clean-filter alarm and sensor error alert.
- Adjustable storage shelf height
- Optional temperature recorder, storage racks and storage box

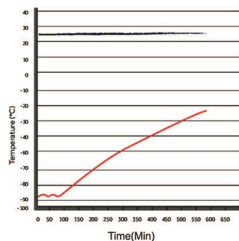
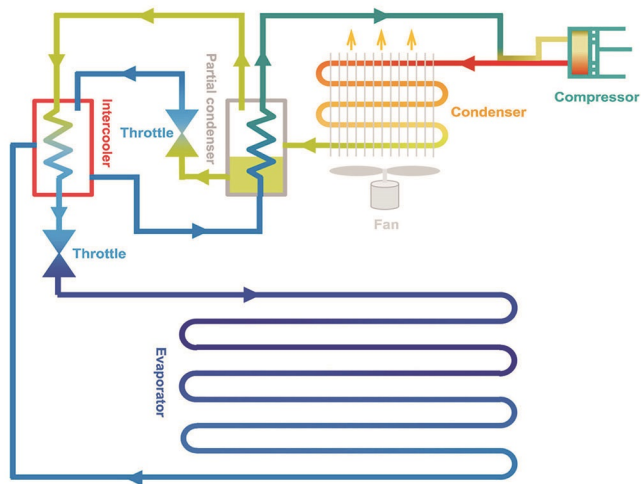


### ENERGY SAVING

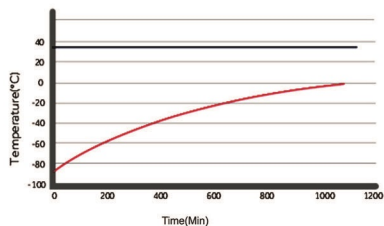
- Unique door seal design for the minimum loss of cold temperature during a door opening.
- High performance VIP insulation panels to minimize cabinet heat gain and to improve temperature stability.



## -86 °C Self- Cascade System



Pull-up test at 25°C ambient



Pull-up test at 32°C ambient

## -86 °C Self- Cascade System



3 individual inner doors can be opened independently to minimize frost buildup inside the chamber. Unique door seal design for the minimum loss of cold temperature during a door opening. Stainless Steel inner handle to ensure the door open conveniently even in the case of frost.

Excellent Doors Seals 5 gasket seal, 4 seals for out door, 1 seal for inner door which provides maximum protection against thermal intrusion

Big Door handle, easy to open



Sample port on back for temperature monitoring conveniently



Controller Panel with press button Alarm status shows on it, easy for attention



Big condenser for better heat dissipation, Ambient Temperature sensor





### 3、BIOLOGICAL SAMPLE BANKS REQUIRE CONSUMABLES

## 1. Medical ULT Freezer



Model	Volume	Exterior dimensions (W*D*H/mm)	Interior dimensions (W*D*H/mm)	Net Weight/kg	Power/W	Temp Range/°C	Compressor/NO.	Optional accessory
-86V838D	838L	1160*1085*1994.5	894*718*1310	275kg	1475W	-40°C~-86°C	Secop/2	Data logger, CO2, LN2 back up system
-86V588D	588L	872*1100*1994.5	606*738*1310	249kg	1250W	-40°C~-86°C	Secop/2	Data logger, CO2, LN2 back up system

Freezer Brand	Freezer Model	Capacity(L)	Shelves	Compartment	Size of Racks(H*D)	Racks per Shelf	Racks per Freezer	Boxes Per Rack	Boxes per Freezer	Box Size(mm)	Vials per Freezer	
	-86V408	408	3	4	5*4	4	16	20	288	250	28800	
	-86V408DL				4*4	4		16				
	-86V588	588	3	4	5*5	4	16	25	400			40000
	-86V588D				5*5	4	16	25	400			50400
	-86V728	728	3	4	5*4+6*4	6	24	20+24	504			60000
	-86V838	838	3	4	5*5	6	24	25	600			10800
-86V838D	19200											
-86V188E	188	2	3	4*3	3	9	12	108	28000			
-86V340E	340	3	4	4*4	3	12	16	192	40000			
	-86V408E	408	3	4	5*4	4	16	20	288	3400		
					4*4	4		16		30000		
-86V588E	588	3	4	5*5	4	16	25	400				
-86V838E	838	3	4	5*5	6	24	25	600				
-86VH105	105	/	1	11*1+6*1	/	4	11+6	34				
-86VH485	485	/	1	11*1+6*1	/	30	11+6	300				

## 2.CONSUMABLES FOR ULT FREEZER



# -86 °C ULT Freezer



	Model	-86V58	-86V188E	-86V340E	-86V408E	-86V588E	-86V838E	-86V388	-86V408	-86V588	-86V728	-86V838	-86V408DL	-86V588D	-86V838D	-86H105	-86H485	
Specifications	Shell/drawer QTY	Stainless steel shelf#1	Stainless steel shelf#2	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	Stainless steel shelf#3	/	/	
	Cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	Direct cooling	
	Defrost	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	
	Refrigerant	Mixed-gas	Mixed-gas	Mixed-gas	Mixed-gas	Mixed-gas	Mixed-gas	Mixed-gas	HC	HC	HC	HC	Mixed-gas	Mixed-gas	Mixed-gas	Mixed-gas	Mixed-gas	
	Power Consumption(kWh/24h)	5.6	8.2	11.2	12	16.5	18.8	12.8	11.6	12	15.4	15	14.5	16.5	18.8	3.8	11.5	
Cooling system	Noise (cft)	49.5	52	52	50	53	55	50	50	53	53	53	53	53	55	50	54.5	
	Ambient temperature (°C)	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	10-32°C	
	Temperature range (°C)	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	-40~-86°C	
	Compressor brand/QTY	SECOP1	CUBIGEL1	SECOP1	SECOP1	SECOP2	SECOP2	SECOP2	SECOP2	SECOP2	SECOP2	SECOP2	SECOP2	SECOP2	SECOP2	SECOP2	CUBIGEL1	SECOP1
	Sensor	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC	PTC
Power	Temperature controller	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	Microprocessor	
	Display	Digital display	Digital display	Digital display	Digital display	Digital display	Digital display	LCD display	LCD display	LCD display	LCD display	LCD display	LCD display	LCD display	LCD display	LCD display	Digital display	
	Voltage/frequency (V/Hz)	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	220/50Hz	
Material	Power (W)	442W	660W	810W	800W	1500W	1700W	870W	845W	815W	935W	890W	1350W	1500W	1700W	500W	670W	
	Current (A)	2.67A	4.8A	5A	4.8A	9.1A	8.8A	6.75A	7A	8.8A	7A	7A	8A	9.1A	10.9A	2.9	3.57	
Size	Inkide material	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	
	Insulation	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	PURF	
Frozen Racks	Capacity (L/ku ft)	501.76	1888.63	3401.2	40814.40	58820.76	83828.59	33811.83	40814.40	58820.76	72825.70	83828.59	408	588	838	1053.70	485/17.12	
	NT/GT (kg)	86.8/115	174/224	222/283.5	234/291	290/360	344/430	290/360	292/317	307/368	390/410	397/430	255/307	297.5/358.5	336.5/416	63.7/68.5	127/152.5	
	Exterior size(W*D*H)(mm)	635*757*1212	850*930*1555	878*980*1900	880*930*1945	880*1080*1965	1175*1078*1990	880*980*1940	800*940*1940	880*1080*2000	1280*880*2010	1190*1045*2010	800*940*1940	885*1100*1995	1190*1045*2010	680*980*935	1700*830*980	
	Interior size(W*D*H)(mm)	330*453*1410	465*465*930	488*907*1140	606*578*1180	606*738*1310	606*718*1310	488*607*1140	606*578*1180	606*738*1310	894*558*1350	884*718*1310	606*578*1180	606*738*1310	894*718*1310	480*380*965	1455.5*525.2*674	
	Package size(W*D*H)(mm)	730*845*1400	880*910*1820	935*1070*2130	955*955*2100	970*1140*2190	1270*1100*2185	840*1070*2130	855*960*2100	975*1140*2200	1320*970*2190	1270*1105*2220	855*960*2100	970*1140*2190	1270*1105*2220	770*705*1090	1780*910*1080	
	CBM	0.84	1.46	2.13	1.82	2.42	3.05	2.14	1.83	2.45	2.80	3.12	1.83	2.42	3.12	0.58	1.75	
	20GP/40GP/40HQ	24/51/51	12/24/26	12/24/24	12/24/24	12/24/24	8/18/18	12/24/24	12/24/24	12/24/24	12/24/24	8/18/18	8/18/18	12/24/24	12/24/24	8/18/18	24/51/51	6/13/13
	Rack(s)	2(8X2)	9(4X3)	12(4X4)	16(5X4,4X4)	16(5X5)	24(5X3)	12(4X4)	16(5X4,4X4)	16(5X5)	18(6X4)+6(8X4)	24(5X5)	16(5X4,4X4)	16(5X5)	24(5X5)	24(5X5)	4(11X1,8X1)	30(11X1,8X1)
	Boxes (2 inches)	24	108	192	288	400	288	400	288	400	400	288	400	288	400	34	30	
	Samples(2ml)	2400	10800	19200	28800	40000	28800	40000	28800	40000	50400	60000	28800	40000	60000	3400	30000	
Alarm	High/Low temperature	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Power failure	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Abnormal voltage	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sensor error	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Filter screen check	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Thermostat failure	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Low battery	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Condenser clean	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	High ambient temperature	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Door ajar	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Optional	Castor	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Inside door	1	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	Test hole QTY/diameter	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	1/25MM	
	USB port	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Chart recorder	/	/	/	/	/	/	/	/	Optional	Optional	Optional	Optional	/	/	Optional	Optional	
	Data logger	/	/	/	/	/	/	/	/	Optional	Optional	Optional	Optional	/	/	Optional	Optional	
	Power failure backup system(alarm)	/	72h	72h	72h	72h	72h	72h	72h	72h	72h	72h	72h	72h	72h	72h	/	
	Remote alarm port	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	CO2 back up system	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	
	LHZ back up system	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	
Other	Certification	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	ISO.CE	